



THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Michael Merrick)
Serial No.: 10/617,164) Attorneys' Ref. P214136
Filing Date: 7/9/2003) Art Unit: 1731
Title: SYSTEMS AND METHODS FOR)
FABRICATING COMPOSITE)
FIBERGLASS LAMINATE)
ARTICLES)

INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

In accordance with 37 CFR §1.56, the Applicant respectfully submits this Information Disclosure Statement to call to the attention of the Examiner the references listed on the attached Forms PTO/SB/08A and PTO/SB/08B for consideration in the prosecution of the above-referenced application for U.S. patent. Copies of these references are attached hereto for the Examiner's convenience. Citation of a reference in this Information Disclosure Statement is not an admission that the reference is prior art to the present invention.

It is believed that no fee is due at this time to maintain the application in full force and effect, however if any such fee is due please charge this to Deposit Account No. 502099.

REMARKS

U.S. Patent No. 6,540,954 to Kramers discloses a process for fabricating a boat shell that uses inserts to secure two halves of the shell. The inserts are removed before the vacuum forming step.

U.S. Patent No. 5,939,007 to Iszczyszyn et al. discloses a method of manufacturing a fiber reinforced composite spar for a helicopter rotor blade.

U.S. Patent No. 4,620,890 to Myers et al. discloses a method of making fluted core radome.

U.S. Patent No. 4,471,710 to Brown discloses a method of making a boat hull in which strips of building material are laid across each other to obtain a compounded complex curve.

U.S. Patent No. 4,453,357 to Zwilmeyer discloses a wall structure for boat hulls and the like in which discrete panels are formed with tongue and groove edge joints and a preformed plastic layer on one side. The other side is then reinforced with plastic in a continuous layer spanning a plurality of panels.

U.S. Patent No. 4,118,814 to Holtom discloses a boat hull made by winding a layer of glass fiber around the male mold, a layer of foam sandwich material around the first layer, and then a third layer of glass fiber on top of the foam layer.

U.S. Patent No. 4,094,027 to Vernon discloses a hull for a catamaran comprising upper and lower pieces that interlock. Each piece comprises a core in inner and outer layers.

U.S. Patent No. 4,021,874 to Alter et al. discloses a boat hull comprising synthetic plastic sheets to which are attached plastic foam.

U.S. Patent No. 3,887,952 to Nicoll, Jr. discloses a modular boat made of fiberglass reinforced paperboard elements.

U.S. Patent No. 3,811,141 to Stoeberl discloses a boat hull and deck assembly in which the hull and deck are both formed of a core and inner and outer layers.

U.S. Patent No. 3,372,408 to O.L. Luger et al. discloses a modular boat structure.

U.S. Patent No. 3,282,761 to F.A. Evangelist discloses a method of producing an article having a plastic sandwich construction comprised of outer and inner shells with a layer of material therebetween for the construction of boats and the like.

U.S. Patent No. 2,412,455 to L.P. Hall, Jr. discloses a method of making boat hulls in which discrete panels are edge joined with sheet material precut into desired shapes.

U.S. Patent No. 6,168,358 to Engwall et al. discloses a lay-up tool for fabricating a laminate part. A groove corresponding to the perimeter of the part is formed in a face

sheet of the tool. The part is trimmed in place on the lay-up tool using an automated cutter that extends through the part into the groove. The Engwall patent discloses the use of pins in a mold top plate to provide reference features in the face sheet for establishing a reference plane.

U.S. Patent No. 6,017,484 to Hale discloses a method of manufacturing a composite part. The method uses two chambers to establish a stepped pressure reduction and subsequent pressure increase to reduce voids and wrinkles in the resulting part.

U.S. Patent No. 5,875,732 to Chapman et al. discloses the use of a vacuum bag to form a part comprising a fiberglass mixture bonded to reinforcing material.

U.S. Patent No. 5,635,013 to Boi discloses a process for fabricating a composite panel. This process employs a combination of temperature and pressure to cure and bond reinforcing plies to a core.

U.S. Patent No. 5,368,807 to Lindsay discloses a method of forming a composite part having integral stiffeners. The primary relevance of this patent is the use of indexing pins to orient a vacuum bag to a primary mold or tool.

U.S. Patent No. 4,882,118 to Megarry discloses a system for fabricating a composite part in which periphery elements that define a mold cavity periphery of the size and shape of an edge surface of the part. At least one of the periphery elements slides relative to the molding face during curing of the resins.

U.S. Patent No. 4,676,853 to Lerma discloses a system for forming a laminate composite part in which bleeder fabric is applied between the mold and the part and between the part and a vacuum bag. The bleeder fabric allows air to exit from either side of the part as it is formed.

U.S. Patent No. 4,622,091 to Letterman discloses a system for forming a composite part. Layers of breather tape are used to create a conduit to allow air and other gasses to be withdrawn from a resin content control envelope.

U.S. Patent No. 4,052,241 to Walter discloses a vacuum die system. A substrate is supported by retractable pins within a mold. A finish sheet is supported on a perforated surface. The mold is sealed to the perforated surface, and a vacuum is

drawn through vacuum holes in the mold to cause the finish sheet to be drawn against the substrate.

"Airtech Advanced Materials Group" Data Sheet, dated December 21, 1998, discloses a spray contact adhesive for bonding that may be used to secure separate fiberglass layers as they are formed into a fiberglass panel.

Andre Cocquyt's "Infusion Revisited", dated February/March 2001, describes the use of resin infusion to manufacture boat hulls.

Bruce Pfund's "Tools of the Trade-Duflex", dated February/March 2000, discloses a system for manufacturing boat hulls using composite flat panels.

Trevor Gundberg's "What is Vacuum Infusion" is undated, but the Applicant believes this document was published in July, 2000. The document discloses the vacuum infusion as it can be applied to the manufacture of composite parts and panels.

CONCLUSION

The Applicant respectfully submits that these references, taken alone or in combination, neither anticipate nor render obvious the present invention. Consideration of the foregoing in relation to the pending application is respectfully requested. If there is any matter which could be expedited by consultation with the Applicant's attorney, such would be welcome. The Applicant's attorney can normally be reached at the telephone number below.

Signed at Bellingham, County of Whatcom, State of Washington, this 27th day of February, 2004.

Respectfully submitted,

Michael Merrick

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CERTIFICATE OF MAILING 37 C.F.R. §1.8

I hereby certify that this paper (along with any paper referred to as being attached or enclosed) is being deposited with the United States Postal Service as first class mail in an envelope addressed to Commissioner for Patents, U.S. Patent & Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450, on the date shown below.

Signature: Robin Fry

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Name: Robin Fry

Date: February 27, 2004

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PTO/SB/08A (08-00)
Approved for use through 10/31/2002. OMB 0651-0031

U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

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Substitute for form 1449B/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Complete if Known

Application Number 10/617,164

Filing Date 7/9/2003

First Named Inventor Michael Merrick

Group Art Unit 1731

Examiner Name

Attorney Docket Number P214136

Sheet 1 of 2

U.S. PATENT

Examiner Initials*	Cite No. ²	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number	Kind Code ²			
		6,540,954		Kramers	04/01/2003	
		5,939,007		Iszyczyn et al.	08/17/1999	
		4,620,890		Myers et al.	11/4/1986	
		4,471,710		Brown	09/18/1984	
		4,453,357		Zwilgmeyer	06/12/1984	
		4,118,814		Holtom	10/10/1978	
		4,094,027		Vernon	06/13/1978	
		4,021,874		Alter et al.	05/10/1977	
		3,887,952		Nicoll, Jr.	06/10/1975	
		3,811,141		Stoeberl	05/21/1974	
		3,372,408		O.L. Luger et al.	03/12/1968	
		3,282,761		F.A. Evangelist	11/01/1966	
		2,412,455		L.P. Hall, Jr.	11/15/1944	
		6,168,358		Engwall et al.	01/02/2001	
		6,017,484		Hale	01/25/2000	
		5,875,732		Chapman et al.	03/02/1999	
		5,635,013		Boi	06/03/1997	
		5,368,807		Lindsay	11/29/1994	
		4,882,118		Megarry	11/21/1989	
		4,676,853		Lerma	06/30/1987	

FOREIGN PATENT

Examiner Initials*	Cite No. ¹	Foreign Patent Document			Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures	T ⁶
		Office ³	Number	Kind Code ⁵ (if known)				

Examiner Signature

Date Considered

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number ² See attached Kinds of U.S. Patent Documents ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3) ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible ⁶ Applicant is to place a check mark here if English language Translation is attached.

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1 Unique citation designation number 2 See attached Kinds of U.S. Patent Documents 3 Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3) 4 For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document 5 Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible 6 Applicant is to place a check mark here if English language Translation is attached.

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Substitute for form 1449B/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(use as many sheets as</i>		Complete if Known			
		Application Number	10/617,164		
		Filing Date	7/9/2003		
		First Named Inventor	Michael Merrick		
		Group Art Unit	1731		
		Examiner Name			
Sheet	1	of	1	Attorney Docket Number	P214136

OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ^d
		AIRTECH ADVANCED MATERIALS GROUP; data sheet/catalog; Dec. 21, 1998; pp. 6 & 8.	
		ANDRE COCQUYT; "Infusion Revisited"; <u>Professional BoatBuilder</u> ; Feb/Mar 2001; pp.132-155.	
		BRUCE PFUND; "Tools of the Trade-Duflex"; <u>Professional BoatBuilder</u> ; Feb/Mar 2000; pp. 162-168.	
		TREVOR GUNDBERG; "What is Vacuum Infusion"; <u>Vacuum Infusion Processing with DIAB Core Materials Guide</u> —DIAB Company Technical Bulletin; pp. 1-9	

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